

NBA Valuation Mo



and

Recommendations

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Overview

Situation:

- The Denver Nuggets need to replace the **shooting forward** position for next season
- The position may have 2 potential openings

Problem:

- Need to choose one of three candidates to fill the **shooting forward** position
- Select a backup candidate due to the possible leave of Jerami Grant

Considerations:

- Select free agents with the best **shooting** and **offensive** skills
- \$26 million on free agent picks before hitting luxury tax threshold

Solution:

- Compare **career stats** between the three candidates
- Build a **valuation model** on overall NBA player salaries
- Compare with candidate's **previous contracts** to assess value

Approach For Choosing a Model

Approach 1: Multiple Linear Regression

Reason for Choosing:

- Backward-Stepwise Selection for reducing variables

Measures of fit:

- R-Squared: 0.7602
- Mean Squared Error: 2,052,276

Approach 2: LASSO Regression

Reason for Choosing:

- Accounts for multicollinearity in the selection process

Measures of fit:

- R-Squared: 0.7649
- Mean Squared Error: 3,403,819

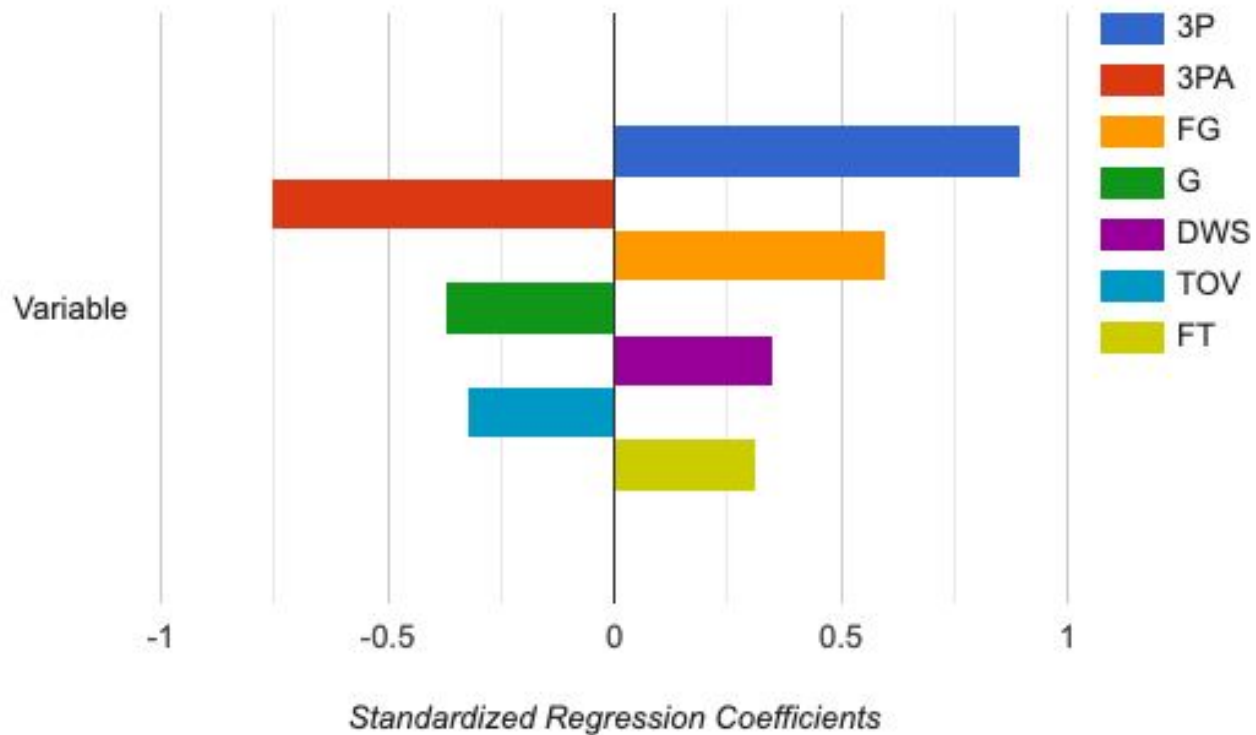
Decision: Choose the **Linear Model**

Limitation:

- 480 rows / 33 explanatory variables
- Not ideally enough records to train the model

Model Summary

Most Important Variables For Predicting Average Deal Salary



Variables Most Correlated With Average Salary

Correlation Coefficient (r)

<u>Variables Most Correlated With Average Salary</u>	<u>Correlation Coefficient (r)</u>
Points	0.7878
Field Goals	0.7758
Win Shares	0.7737

Variables Most Correlated With Each Other

Correlation Coefficient (r)

<u>Variables Most Correlated With Each Other</u>	<u>Correlation Coefficient (r)</u>
Points & Field Goals	0.9909
Points & Attempted Field Goals	0.9857
Field Goals & Attempted Field Goals	0.9818

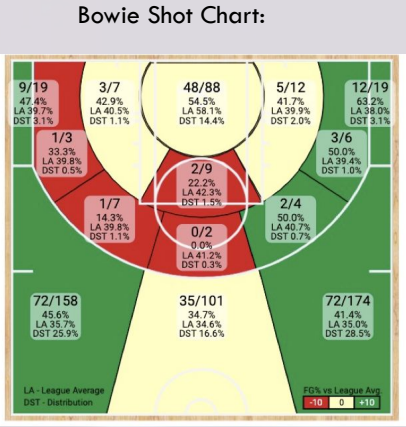
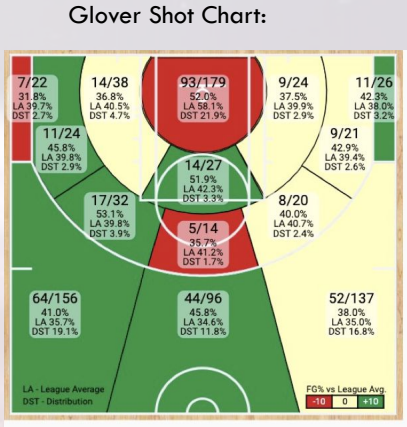
Candidate Valuation & Career Stats Comparison

<u>Candidate:</u>	<u>Projected Annual Valuation:</u>	<u>Previous Contract Annual Salary:</u>
Danny Glover	\$22,256,528	\$21,666,667
David Bowie	\$16,447,223	\$7,000,000
Mike Meyers	\$14,670,416	\$15,000,000

<u>Candidate:</u>	<u>2-Point Field Goal Success Rate:</u>
Danny Glover	46.5%
David Bowie	52.6%
Mike Meyers	47.4%

<u>Candidate:</u>	<u>3-Point Field Goal Success Rate:</u>
Danny Glover	38%
David Bowie	41.1%
Mike Meyers	36.7%

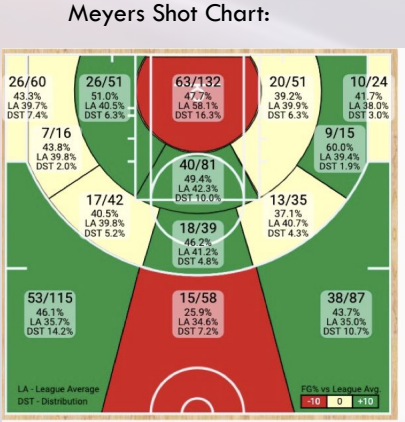
<u>Candidate:</u>	<u>Free Throw Success Rate:</u>
Danny Glover	87.3%
David Bowie	84.9%
Mike Meyers	75.9%



<u>Candidate:</u>	<u>Offensive Rebounds (game average):</u>
Danny Glover	0.7
David Bowie	0.4
Mike Meyers	1

<u>Candidate:</u>	<u>Assists (game average):</u>
Danny Glover	2
David Bowie	1.1
Mike Meyers	1.5

<u>Candidate:</u>	<u>Steals (game average):</u>
Danny Glover	0.8
David Bowie	0.4
Mike Meyers	0.7



Recommendations

Primary: Select **David Bowie** as the new **Shooting Forward**

- Worth significantly more to the team than his previous contracts
- Highest 2-point and 3-point field goal success rate
- Second-highest free throw success rate among the three candidates
- Best shooting accuracy at the top of the key and low post

Secondary: Select **Mike Meyers** as a backup for that position

- Can hire him without going over luxury tax threshold
- No overall significant differences between his and Danny Glover's career stats
- Wide range of areas with accurate shooting

THANK YOU

